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UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re:)	Chapter 11
CELSIUS NETWORK LLC, <i>et al.</i> , ¹)	Case No. 22-10964 (MG)
Debtors.)	(Jointly Administered)

DEBTORS' RESPONSE TO
CREDITOR INQUIRIES REGARDING CELSIUSX

At the request of the Court, including as set forth in the *Order Requiring Response from Debtors* [Docket No. 4195] (the “Order”), the above-captioned debtors and debtors in possession (collectively, the “Debtors”) state the following in response to (a) the letter [Docket No. 4190] (the “Krasadakis Letter”) filed by Georgios Krasadakis (“Mr. Krasadakis”) and (b) the e-mail correspondence (the “Bednarek Letter” and, together with the Krasadakis Letter, the “Letters”) from Pawel Bednarek (“Mr. Bednarek” and, together with Mr. Krasadakis, the “Movants”), which

¹ The Debtors in these chapter 11 cases, along with the last four digits of each Debtor’s federal tax identification number, are: Celsius Network LLC (2148); Celsius KeyFi LLC (4414); Celsius Lending LLC (8417); Celsius Mining LLC (1387); Celsius Network Inc. (1219); Celsius Network Limited (8554); Celsius Networks Lending LLC (3390); Celsius US Holding LLC (7956); GK8 Ltd. (1209); GK8 UK Limited (0893); and GK8 USA LLC (9450). The location of Debtor Celsius Network LLC’s principal place of business and the Debtors’ service address in these chapter 11 cases is 50 Harrison Street, Suite 209F, Hoboken, New Jersey 07030.

was sent to the Bankruptcy Court on January 8, 2024, and filed on the docket on January 11, 2024 [Docket No. 4221]:

Preliminary Statement²

1. Following confirmation of the Plan and approval of the implementation of the MiningCo Transaction, the Movants wrote to the Court to request that the Court reclassify their Claims associated with the “CelsiusX” program as Custody Claims on the basis that coins utilized in the CelsiusX program were not utilized in the Earn Program and were backed one-to-one with segregated reserves. The Movants’ requests are an untimely collateral attack on the Confirmation Order and should be denied.³

2. Every filed version of the Plan classified “any Account Holder Claim not separately classified under the Plan” as an “Earn Claim.” *See* Plan Art. III.5. The Plan defined Earn Claims as Unsecured Claims. *See* Plan Art. I.125 (defining “General Unsecured Claim” as “any Unsecured Claim . . . other than . . . (f) a General Earn Claim . . .”), 231 (defining “Secured Claim”), 257 (defining “Unsecured Claim” to include “any Claim that is not a Secured Claim”). The Movants received ballots but did not vote on the Plan or object to the classification of their Claims at the Confirmation Hearing. This should end the inquiry. To grant the Movants’ requests

² Terms capitalized but not defined in this preliminary statement shall have the meanings ascribed to them elsewhere in this response. Terms capitalized but not defined herein shall have the meanings ascribed to them in the *Findings of Fact, Conclusions of Law, and Order Confirming the Modified Joint Chapter 11 Plan of Celsius Network LLC and Its Debtor Affiliates* [Docket No. 3972] (including the *Joint Chapter 11 Plan of Reorganization of Celsius Network LLC and Its Debtors Affiliates* attached thereto as Exhibit A, the “Confirmation Order”).

³ For the avoidance of doubt, the Debtors confirm the existence of the referenced reserves and will not dispose of such reserves prior to the Court’s resolution of the Letters.

would undercut the finality of the Confirmation Order and encourage further collateral attacks by dissatisfied creditors.

3. Substantively, the Movants' requests are simply variations of arguments this Court has already considered and rejected. Much like prior claimants seeking Secured Claims on account of stablecoins, the Movants emphasize the existence of reserves backing the CX Wrapped Tokens to suggest that Claims on account of CX Wrapped Tokens should be treated as Custody Claims. As the Court has ruled on multiple occasions, the nature of a particular token does not dictate the holder's rights—instead, it is the holder's contract with the Debtors that governs the holder's legal rights.⁴ There are no separate terms of use specific to the CelsiusX program, CelsiusX does not fall within the Custody Program in the General Terms of Use, and CX Wrapped Tokens could not be held in the Custody Program, as explained herein. The only factual distinction between the Movants' requests and prior requests the Court has denied is that it is the Debtors who hold the reserves backing CX Wrapped Tokens. For these reasons, and as more fully set forth herein, the Debtors properly classified Claims on account of CelsiusX, and the relief requested in the Letters should be denied.

Background

4. A Cryptocurrency token can generally only exist on its native blockchain without some sort of intervening token such as a CX Wrapped Token. The Debtors introduced CelsiusX, the Debtors' decentralized finance arm, on February 22, 2022, to provide users with a “cross-chain liquidity bridge” between various blockchains, with a long-term goal of being a liquidity platform that would bridge to all blockchains and an “off ramp” to fiat currencies.

⁴ As discussed herein, some CX Wrapped Tokens may be held by non-Account Holders. Any such Claims would be General Unsecured Claims, which receive the same treatment as Earn Claims.

5. The Debtors commenced these chapter 11 cases before they fully realized this vision, but the Debtors did launch the first phase of CelsiusX, allowing users to wrap Dogecoin (DOGE), ether (ETH), Cardano (ADA), and (later) bitcoin (BTC) for compatibility with the Polygon blockchain. Absent CelsiusX, if an individual owned DOGE, or ETH (which are native to the Ethereum blockchain), ADA (which is native to the Cardano blockchain), or BTC (which is native to the Bitcoin blockchain) and wanted to use the Polygon blockchain, which is popular for providing lower transaction costs, they would need to either liquidate their unsupported Cryptocurrency to purchase a supported Cryptocurrency on the Polygon blockchain or “wrap” their unsupported Cryptocurrency using another third-party provider, which would generally charge fees to wrap the tokens. CelsiusX “wrapped” DOGE, ETH, ADA, and BTC using the ERC-20 standard without charge, creating “cxDOGE,” “cxETH,” “cxADA,” and “cxBTC” (the “CX Wrapped Tokens”). CX Wrapped Tokens could then be utilized on the Polygon network.

6. To use CelsiusX to wrap Cryptocurrency, a user first needed to create an account on the Debtors’ platform. Once they registered for an account, account holders then transferred Cryptocurrency onto the Debtors’ platform in accordance with the applicable General Terms of Use—CelsiusX did not have any separate terms of use.⁵ “Wrapping” only occurs as a withdrawal from the platform. When an account holder elected to wrap a token through CelsiusX, the original token was effectively locked on the original chain (*i.e.*, the original token could not be transferred or otherwise used on the original chain). Celsius then minted a wrapped token (*e.g.*, cxDOGE, cxETH, cxADA, cxBTC) on the Polygon network and moved the underlying token to the Debtors’

⁵ When CelsiusX was first introduced, version 7 of the General Terms of Use was in effect. On April 14, 2022, when the Debtors introduced their Custody Program for U.S.-based account holders, version 8 of the General Terms of Use went into effect. While the Debtors have not been able to locate any CelsiusX-specific terms of use, CelsiusX does have a now-archived informational web page. *See CelsiusX (archived),* <https://web.archive.org/web/20220810232403/https://docs.celsiusx.io/>, attached hereto as Exhibit A.

reserve vault. The Debtors maintained a 1:1 ratio of CX Wrapped Tokens to reserve tokens (*i.e.*, for every one token of cxETH, Celsius maintained one ETH in reserve).

7. CX Wrapped Tokens function like any other token on the Polygon blockchain, including that they can be sold and transferred. Because of this, the Debtors did not record a certain amount as being owed to the account holder who created a CX Wrapped Token. Further, account holders did not accrue rewards on the underlying tokens because no eligible asset was left in the account holder's account on the Debtors' platform. The value CelsiusX offered to account holders who used the program was free wrapping. Because of how CelsiusX and CX Wrapped Tokens functioned, the universe of holders of CX Wrapped Tokens could include parties who are not "Account Holders" and never transacted with the Debtors directly. CelsiusX was only offered to international account holders, although domestic users could obtain CX Wrapped Tokens in the market and unwrap them with the Debtors.

8. If an individual wanted to unwrap a CX Wrapped Token, whether they were the individual who initiated the creation of the CX Wrapped Token or someone who obtained a CX Wrapped Token on the Polygon network, the individual would transfer the CX Wrapped Token onto the Debtors' platform, and the Debtors would credit such individual's Celsius account with the unwrapped token from the reserve.

Response

9. The Movants' requests should be denied on both procedural grounds (under the doctrine of *res judicata*) and on the substance, as neither CelsiusX wrapping nor holding CX Wrapped Coins gives rise to a Custody Claim or similar theory of ownership.

I. Movants' Requests Should be Denied Based on the Doctrine of *Res Judicata*.

10. The doctrine of *res judicata* bars individuals from "relitigating issues that were or could have been raised in the action in which the claims were adjudicated" and for which the court

has entered a final judgment on the merits. *In re Indesco Int'l*, 354 B.R. 664 (Bankr. S.D.N.Y. 2006). A confirmation order is “treated as a final judgment with *res judicata* effect.” *Id.* Where a creditor had notice of the specific classification and treatment of its claims and the deadline to object to the confirmation of the debtor’s plan but fails to object to or appeal the entry of the confirmation order or otherwise reserve their rights related thereto, courts apply the doctrine of *res judicata* to bar such creditor’s subsequent objections to the plan or their treatment thereunder. *See id.* at 665 (“Courts apply *res judicata* principles to bar parties from asserting a legal position after failing, without reason, to object to the relevant proposed plan of reorganization, to object to the confirmation of the plan or to appeal the confirmation order.”); *In re Arcapita Bank B.S.C.(c)*, 520 B.R. 15, 24–27 (Bankr. S.D.N.Y. 2014) (denying creditors’ post-confirmation request for declaratory judgment as to property addressed in the debtor’s plan where such creditors neither objected to the confirmation of the plan nor reserved their rights related thereto either prior to the confirmation of the debtor’s plan or by appealing the confirmation order). Permitting a creditor to assert claims that could, and should, have been addressed pre-confirmation absent such creditor adequately reserving their rights related thereto “would cast a pall over the finality of confirmation proceedings.” *Arcapita Bank*, 520 B.R. at 27.

11. Here, every filed version of the Plan includes a catch-all classification, which would classify CelsiusX claims as either Earn Claims (for Account Holders) or General Unsecured Claims (for non-Account Holders). *See* Plan Art. I.96 and 125. The Debtors sent both Movants a Solicitation Package, which included their individual ballot and a notice of the Confirmation Hearing and the deadline for objecting to confirmation of the Plan, at the e-mail address included in their filed Proof of Claim. Their individual ballots indicated their respective scheduled claims, including the amount and classification of such claims. Neither Movant submitted a ballot, filed

an objection to the confirmation of the Plan, reserved their rights related to the treatment of the CX Wrapped Tokens, or filed an appeal of the Confirmation Order. As such, the Movants' requests regarding the treatment of their CX Wrapped Tokens should be denied as precluded by the doctrine of *res judicata*.

II. Claims on Account of CX Wrapped Tokens Are Not Custody Claims.

12. The Movants' requests can also be denied on the merits, as Claims on account of CX Wrapped Tokens are not "substantially similar" to Custody Claims. *See* 11 U.S.C. § 1122 (requiring claims to be "substantially similar" to other claims with which they are classified). CX Wrapped Tokens do not exist in Account Holders' Celsius Accounts—they are created when an account holder elects to create them and completes a "wrapping" withdrawal. When they are transferred back onto the Celsius platform, they are credited to the relevant account utilizing the CelsiusX reserve tokens. Nothing in the General Terms of Use defines CelsiusX as an account type or program akin to the Earn Program, Borrow Program, or Custody Program, refers to CelsiusX as being part of any of such programs, or defines any specific benefits for or obligations to account holders who used CelsiusX to create CX Wrapped Tokens.

13. When CelsiusX was introduced, the only account type available to account holders was what would later be renamed an "Earn Account" when the Debtors introduced their Custody Program on April 15, 2022. The Debtors' Custody Program was only made available to users located in supported jurisdictions in the United States. *See Important Celsius Update for Our Users in the United States*, Celsius (April 11, 2022), <https://celsiusnetwork.medium.com/important-celsius-update-to-our-us-clients-6df471420cc7> ("On April 15, 2022, Celsius will be launching a new Custody solution for users in the United States. . . . Please note that users in some US jurisdictions will not have access to the Custody [Program] at this point due to local licensing requirements."). International users were never

provided access to the Custody Program, and the CelsiusX wrapping service was only ever offered to international account holders. Therefore, while the Movants are correct that CX Wrapped Tokens were not deployed in the Earn Program, they are not correct that CX Wrapped Tokens give rise to Custody Claims.

14. Because CelsiusX did not have its own terms of use, the General Terms of Use did not provide any special rights to account holders who used CelsiusX, and CX Wrapped Tokens are not maintained on the Debtors' platform, the Debtors properly classified such Claims as unsecured claims: Earn Claims (for Account Holders) or General Unsecured Claims (for non-Account Holders).⁶ This aligns with parties' reasonable expectations regarding wrapped assets, as it is generally recognized that one major risk in using, owning, or purchasing wrapped tokens is that they may prove irredeemable, especially if the custodian becomes insolvent.⁷

15. Movants' contentions that Claims arising from the deposit of CX Wrapped Tokens should be Custody Claims rest entirely on the existence of a reserve. This reserve does not, however, establish a custody relationship (or a security interest) in the tokens held by the Debtors.

See Memorandum Opinion and Order Regarding Ownership of Earn Account Assets [Docket No. 1822] at 40 ("[A]bsent a perfected security interest in tangible or intangible property, in the event of the debtor's bankruptcy, the creditor holds only an unsecured claim."). Put differently, while the reserve existed to "back" the CX Wrapped Token's use on a third-party platform, it did

⁶ Much like "Earn Claim" includes a catch-all for Account Holder Claims, "General Unsecured Claims" covers all Unsecured Claims not otherwise classified. *See* Plan Art. I.125. General Unsecured Claims and General Earn Claims receive the same treatment under the Plan. *See* Plan Art. III.B.5; Art. III.B.9.

⁷ *See* Coinbase, *Asset Category Overviews*, <https://www.coinbase.com/en-gb/asset-risks> (last visited Jan. 9, 2024) (If the party holding the underlying assets "becomes insolvent, mismanages the assets, or is subjected to fraud or hacking, the value of the wrapped token might be jeopardized."); Vesper Finance, *DeFi 101: The Importance of Wrapped Tokens*, <https://medium.com/vesperfinance/defi-101-the-importance-of-wrapped-tokens-2340762947da> (Feb. 27, 2023) ("If the party responsible for managing a wrapped Bitcoin for example goes bankrupt, the token holders may not be able to redeem their tokens for the underlying Bitcoin.").

not bestow additional legal rights or entitlements on any particular holder. Neither Movant claims to have such an entitlement.⁸

16. Lastly, acceptance of the Movants' equitable arguments would come at the detriment of other Account Holders. None of the CX Wrapped Tokens are presently pegged to the trading price of the underlying assets. For example, as of January 11, 2024, ether wrapped using CelsiusX ("cxETH") traded at approximately \$313/cxETH as compared to unwrapped ether, which traded at approximately \$2,600/ETH.⁹ Because CX Wrapped Tokens are generally freely tradable on the Polygon network, parties wholly unrelated to these cases could obtain and redeem CX Wrapped Tokens and jump the line ahead of Account Holders who hold Claims on account of the same type of digital asset if the Movants' requests are granted, even though those holders do not have any contractual basis for that preferred treatment.

17. Therefore, for the reasons stated herein, the Movants' arguments that Claims related to CX Wrapped Tokens should be considered Custody Claims should be rejected.

Reservation of Rights

18. The Debtors expressly reserve all further substantive or procedural objections to the Letters. Nothing contained herein should be construed as: (a) an admission as to the validity of any particular Claim against the Debtors, (b) a waiver of the Debtors' rights to dispute or challenge any particular Claim on any grounds, including through avoidance and/or recovery

⁸ See Krasadakis Letter ("It would be logical to assume that users seeking to deposit tokens which had a guaranteed 1 to 1 backing in the platform would not really be interested in the 'Earn' program though. In fact, there are enough funds to repay 'X' token holders with what's deposited in the relevant backing addresses. So it would be more reasonable to also classify those that had deposited 'X' tokens into Celsius as 'Custody' creditors."); Bednarek Letter ("I have been a holder of CelsiusX tokens, which, as Mr. Krasadakis rightly pointed out in his letter, were fully backed and did not involve participation in the Celsius Earn program or any other programs offered by Celsius. In good faith, I transferred these tokens to Celsius in July 2023, for unwrapping, which can be exclusively facilitated by Celsius.").

⁹ The trading prices of ETH and cxETH were determined as of 4:15 p.m. (prevailing Eastern Time) on January 11, 2024 based on prices reported by CoinPaprika.com.

actions, (c) a promise or requirement to pay any particular Claim, (d) an implication or admission that any particular Claim is of a type specified or defined, (e) an implication or admission as to any position the Debtors may take with respect to outstanding legal issues in these chapter 11 cases, including the right to seek relief related to the issues contained in the Letters and this response; (f) a request or authorization to assume any agreement, contract, or lease pursuant to section 365 of the Bankruptcy Code, (g) a waiver or limitation of the Debtors' rights under the Bankruptcy Code or any other applicable law, or (h) a concession by the Debtors that any liens (contractual, common law, statutory, or otherwise) satisfied pursuant to this response are valid, and the Debtors expressly reserve their rights to contest the extent, validity, or perfection or seek avoidance of all such liens.

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New York, New York
Dated: January 12, 2023

/s/ Joshua A. Sussberg

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Exhibit A¹⁰

CelsiusX Informational Web Page

¹⁰ **Exhibit A** includes the contents of the now-archived informational web page for CelsiusX, which was captured using PrintFriendly. The archived webpage can be accessed at <https://web.archive.org/web/20220810232403/> <https://docs.celsiusx.io/>.

Introduction - CelsiusX

 web.archive.org/web/20220810175411/https://docs.celsiusx.io

CelsiusX aims to seamlessly bridge the DeFi and CeFi worlds by acting as a cross-chain liquidity bridge. The ultimate goal is for CelsiusX to evolve into a liquidity platform, which is a superset of being a retail and institutional lending platform. Upon implementation, the CelsiusX platform can be used as a bridge to all chains as well as an on/off ramp into the fiat world.

The two products on the roadmap to this vision are:

CelsiusX Cross-Chain Liquidity Bridge

The CelsiusX wrapped token infrastructure enables the creation of tokens on a target chain collateralized by assets on the native blockchain. Our implementation differs from other collateralized tokens in three major aspects. First, we offer yield generation on both the target and native blockchains for ERC20 tokens. Second, key actions such as minting are functionally controlled utilizing a decentralized oracle service. Third, the intent of our final implementation is to provide a fully decentralized wrapping service, which will be enabled via a trustless bridge without the need for any central agency.

CelsiusX Wrapped Assets

Wrapped assets are the concrete representation of the CelsiusX liquidity bridge. Assets are locked on one blockchain and a corresponding amount of wrapped tokens are minted on another blockchain. Using the bridge, these wrapped tokens can be redeemed for the underlying asset at any time.

Celsius

CelsiusX is the DeFi arm of Celsius, which is a modern financial services platform accessible via web and mobile app. Built on the belief that financial services should only do what is in the best interests of the community, Celsius is a democratized reward-earning and crypto lending platform where membership provides access to curated financial services that are not available through traditional financial institutions. Crypto holders can earn rewards by transferring their coins to their Celsius account and can borrow USD or stablecoins against their crypto collateral at interest rates starting at 1% APR.

Connect With Us

[CelsiusX](#)

Celsius

Next - Systems Design

Overview



Last modified 5mo ago

Overview - CelsiusX

 web.archive.org/web/20220810175435/https://docs.celsiusx.io/systems-design/overview

The purpose of launching CelsiusX wrapped assets is to enable users to exchange and interact with tokens on ecosystems of their choosing while having confidence in its value through the asset it represents and is backed by. Currently, most state-of-the-art collateralized assets are centralized and many are non-upgradable. In contrast, our end product, while starting centralized, will decentralize over time and be upgradable.

At a high level, CelsiusX will issue wrapped tokens on the target chain that are backed by assets on the native chain. For ERC20 tokens, a trustless vault (in our case, [Enzyme Finance](#)) is used to lock up the native asset. Enzyme Finance allows for on-chain Asset Management trustlessly, with only approved DeFi protocols being allowed to deploy deposited assets. Once assets are locked into the vault, a decentralized [Chainlink](#) oracle network broadcasts the value of the vault to a [proof of reserve contract](#). The Chainlink proof of reserve provides the true collateralization of the wrapped tokens on the target chain and prevents them from being undercollateralized.

A quick primer on CelsiusX and the cross-chain liquidity bridge:

Impact

Currently, to access cross-chain DeFi, a user must have fragmented amounts of a single asset in multiple wallets and across multiple chains. The main issues with this model are fungibility (Asset A on Chain A is not immediately composable with Asset A on Chain B) and usability (sending assets from Chain A to Chain B requires bridges that introduce complexity and risk). CelsiusX is aiming to improve the user experience when interacting with protocols across different chains by standardizing wrapping in the DeFi ecosystem, which solves the fragmentation and fungibility issues present in current wrapping options. By acting as a cross-chain liquidity bridge, CelsiusX will create the next generation user experience where the user will have one hub wallet (on Celsius) from which they can deposit and withdraw a standardized CelsiusX wrapped asset (cxToken) to any supported chain. In addition, state-of-the-art wrapped token providers, such as wrapped.com, don't allow for yield generation on the native asset and don't allow for retail users to wrap and unwrap tokens. Our novel approach for wrapping tokens is intended to enable yield generation on the native asset, while still maintaining full backing, and is easily accessible to everyday retail users.

Decentralization Stages - CelsiusX

 web.archive.org/web/20220810175423/https://docs.celsiusx.io/systems-design/decentralization-stages

Decentralization Stages

V1 - Centralized Bridging Using the Celsius Backend

In this first phase, wrapping and unwrapping tokens will utilize a centralized backend while leveraging the Chainlink proof of reserve system to minimize trust. The goal of this stage is to quickly go-to-market and bring legitimacy to CelsiusX wrapped tokens (cxTokens), meaning transparency will be at the forefront of our efforts. An externally owned account (EOA) will manage vaults on Enzyme Finance. Once assets are locked a Chainlink oracle will broadcast the value of assets through a one-way proof of reserve, where CelsiusX can never mint more wrapped tokens than the locked amount in the vault. A primer on how to bridge assets using the Celsius app can be found [here](#).

cxTokens are only accessible through the Celsius Webapp, only to verified users (who have gone through KYC/AML processes and are approved by Celsius) and only in select jurisdictions, based on Celsius' sole discretion.

This offering is currently not available in the USA, although we are working on a solution for this.

V2 - Proof of Collateral in All Directions

In the second phase, a CelsiusX vault manager contract will be deployed on the native chain and will take over management from the EOA. In this phase an [isomorphic proof of reserve](#) will enable minting/burning and withdrawing/depositing while ensuring the appropriate amount of collateral is always present. This two-way reserve provides additional accountability and transparency, further reducing the need for the user to trust CelsiusX, as reserves can only be withdrawn if a sufficient amount of corresponding wrapped tokens are burned. The isomorphic proof of reserve will also guard against drift from collateralization ratios between the target and native chains.

V3 - Decentralized Minting and Burning

Up to this point, all wrapping and unwrapping have been achieved through the centralized backend. In this phase, we would integrate a decentralized bridge to wrap assets cross-chain. Users would directly deposit into a trustless vault and wrap tokens cross-chain. This phase requires the use of cross-chain messaging systems such as [Chainlink's CCIP](#), which

is still currently in development, to pass messages between the native and target chains. At this stage, Celsius transitions from being the backend provider, to a user of the decentralized CelsiusX infrastructure.

Integration Partners - CelsiusX

 web.archive.org/web/20220810175414/https://docs.celsiusx.io/systems-design/integration-partners

Enzyme Finance

Enzyme Finance is an Ethereum platform that dynamically deploys assets stored in the vaults to various DeFi protocols. To begin, the vault starts with a denomination asset, which acts as the unit for calculating the total value of the vault. In the wrapped token design for Celsius, such a token must have a corresponding vault (or several vaults) in the denomination asset.

Chainlink

Chainlink is a decentralized blockchain oracle built on Ethereum that enables the transfer of tamper-proof data from off-chain sources onto on-chain smart contracts. CelsiusX utilizes Chainlink's proof of reserve service, which enables the autonomous auditing of collateral used within DeFi in real-time, ensuring users' funds are protected from unforeseen fractional reserve practices and other fraudulent activity from off-chain custodians. This increases transparency and decreases risks by enabling oracle-triggered circuit breakers and functions.

Polygon

Polygon is a protocol and a framework for building and connecting Ethereum-compatible blockchain networks. The first wrapped assets deployed by CelsiusX will be wrapped onto the Polygon PoS chain.

Overview - CelsiusX

 web.archive.org/web/20220810175422/https://docs.celsiusx.io/cross-chain-liquidity-bridge/overview

At CelsiusX, one of our goals is to bridge DeFi and CeFi infrastructure. Although DeFi, which is a major technological leap in financial infrastructure, enables services such as lending, borrowing, trading, and payments to be accessible to anyone in the world with an internet connection, it still faces many challenges when it comes to adoption, particularly because many innovative solutions fail to bootstrap sufficient liquidity.

As a DeFi-CeFi hybrid institution, CelsiusX is building liquidity bridges which will give users the ability to move assets between blockchains and provide cross-chain liquidity. Although the first implementation will utilize the Celsius backend as a bridge, our eventual goal, as outlined in the [Decentralization Stages](#), is to provide a fully decentralized bridge.

Bridging Tokens With Celsius - CelsiusX

 web.archive.org/web/20220810175433/https://docs.celsiusx.io/cross-chain-liquidity-bridge/bridging-tokens-with-celsius

Celsius users will be able to use the bridge to wrap tokens directly within the Celsius app (guide found [here](#)) and choose from a selection of networks. Unlike other bridging services, CelsiusX will not charge users any fees to wrap tokens, instead utilizing deployment strategies whitelisted on Enzyme vault manager to offset the upkeep costs of operating the bridge. In addition, CelsiusX will provide the ability to wrap and unwrap tokens in real-time, giving users greater control and functionality compared to current state-of-the-art wrapping services.

Design - CelsiusX

 web.archive.org/web/20220810175422/https://docs.celsiusx.io/wrapped-assets/design

The general architecture combining the Chainlink proof of reserve with an Enzyme vault is illustrated below for arbitrary native and target chains, showing how Celsius can generate yield on both while preserving transparency:

Oracle Integration

We utilize the Chainlink Oracle's feed for proof of reserve data integrated into the wrapped token smart contract on the target chain. To guard against the drift of collateralization ratios between the target and native chains as well as determine minting conditions, we employ the following protocol, which is currently in development:

Isomorphic Proof of Reserve

The actions of minting, burning, and withdrawing tokens depend on a complex series of conditions that the Chainlink oracle must verify, since each function is gated by reserve conditions and the state of other associated tokens.

Specifically, for wrapped tokens:

- **Mint** allows owners to mint tokens to valid addresses. It calls on Chainlink and only enables the call if the oracle approves reserves on the native chain.
- **Burn** allows minted tokens to be burned and can only happen if the resulting unburnt value is greater than the value in user accounts. This ensures that when burning a wrapped token, Celsius doesn't affect ones owned by customers.

On the native chain:

- **Withdraw** can only happen if enough wrapped tokens have been burned. Specifically, the protocol avoids a **race condition** between the **withdraw** and **mint** functions, where potential oracle subversion could occur with simultaneous commands to withdraw on the native chain while minting on the target chain.
- **Deposit** can always occur.

These items are handled in a manner that does not require the end user to trust Celsius by employing a smart contract that prevents withdrawing reserves without a sufficient corresponding amount of wrapped token being burned.

Implementation - CelsiusX

 web.archive.org/web/20220810175413/https://docs.celsiusx.io/wrapped-assets/implementation

The first core assets available as wrapped products will be CelsiusX wrapped Cardano (cxADA), Dogecoin (cxDOGE), and Ethereum (cxETH) deployed onto Polygon. This deployment implements the wrapping of both ERC20 and non-ERC20 assets.

The wrapped tokens will be deployed in the following pool structures on the largest Polygon decentralized exchange, Quickswap:

- cxADA / cxETH
- cxDOGE / cxETH
- cxETH /WETH

All relevant addresses can be found at Smart Contract Addresses.

Core Functionality

The wrapped token will be an ERC20 following the pattern provided by Wrapped along with additional functionality:

- Upgradeability
- Minting
- Burning
- Pausable
- Whitelist
- Blacklist
- Upgradeable
- Updating the Oracle

Wrapping ERC20 Native vs Non-ERC20 Native Assets

CelsiusX will wrap both ERC20 and non-ERC20 native assets, with future implementations planned for both categories. The main difference in the wrapping procedure, as illustrated in the following diagrams, is that ERC20 native assets only require a Chainlink oracle to broadcast the vault balance between the Ethereum and the target blockchain. While in contrast, non-ERC20 native assets are first converted to ERC20 tokens on Ethereum as a central registry and Chainlink oracles manage the collateral between 3 different chains.

ERC20

Non-ERC20

Wrapped Asset Contract Functionality - CelsiusX

 web.archive.org/web/20220810175420/https://docs.celsiusx.io/wrapped-assets/wrapped-asset-contract-functionality

Minting

The current minting protocol provides insight into the process that underlies many core functions of wrapped tokens and the **isomorphic proof of reserve** as a whole. Specifically, functions that enable minting to a target chain or withdrawing from a vault incorporate a secondary oracle check to ensure that there are enough tokens in reserve and that tokens don't get undercollateralized, respectively.

function mint(address account, uint256 amount) returns (bool)

msg.sender: the account that supplies the asset

account: the address to which the tokens will be minted

RETURN: true on success

Burning

The burn function enables the asset on the wrapped chain to be burned, removing it from circulation.

function burn(address account, uint256 amount) returns (bool)

msg.sender: the account that owns the asset

account: the address from which the tokens will be burned

RETURN: true on success

Revoking Tokens

The administrator can remove tokens from any address and optionally send the removed tokens to a different address.

function revoke(address from, uint256 amount) returns (bool)

function revokeToAddress(address from, address to, uint256 amount) returns (bool)

from: the account from which the tokens will be revoked

to: the address to which the tokens will be moved

amount: the amount of tokens to be revoked

RETURN: true on success

Whitelisting

The whitelist suite of functions enable keeping track of whitelists and, for admins, updating the entries. The whitelists are used to check if the sender and receiver are configured to allow a transfer. An address can only be a member of a single whitelist at a time.

function checkWhitelistAllowed(address sender, address receiver) returns (bool)

sender: the sender's address

receiver: the receiver's address

RETURN: true on success or no whitelists enabled

function addToWhitelist(address addressToAdd, uint8 whitelist)

function removeFromWhitelist(address addressToRemove)

addressToAdd: the address to be added to the whitelist

whitelist: specific whitelist to be added onto

addressToRemove: address to be removed (no whitelist name required since addresses can only be on a single whitelist)

Blacklisting

The blacklist suite of functions work analogously to whitelists, allowing users to keep track of blacklists and, for admins, updating the entries. The blacklists are used to check if the sender and receiver are configured to allow a transfer. An address can only be a member of a single blacklist at a time.

function checkBlacklistAllowed(address sender, address receiver) returns (bool)

sender: the sender's address

receiver: the receiver's address

RETURN: true on success or no blacklists enabled

function addToBlacklist(address addressToAdd)

function removeFromBlacklist(address addressToRemove)

addressToAdd: the address to be added to the whitelist

addressToRemove: address to be removed

Road To Full Decentralization - CelsiusX

 web.archive.org/web/20220810175432/https://docs.celsiusx.io/wrapped-assets/road-to-full-decentralization

In order for users to have confidence in the value of a wrapped asset, there should be a high level of verifiable certainty that at any point in time they will be able to trade the token they are holding with the collateral in a reserve.

In the first step towards decentralization, the end user will have to place some trust in Celsius to not undercollateralize a wrapped token. However, any such actions would have full visibility to the community by the nature of Blockchain, meaning even without built-in safeguards, all such actions are auditable.

Moving beyond this step, an Oracle service will then be implemented which publishes reserve data between the target and native chains. With this information stream, overminting and withdrawing without burning sufficient tokens, even by Celsius, will be prevented. At this step, all minting and burning will also be automated, where each action is triggered by deposit and withdrawal conditions on the native chain. In this way, all guards relying on keys will be removed. However, fully decentralized minting and burning still isn't possible in this phase, with all actions needing to be done through some designated address until **message passing** is implemented.

The end goal for wrapped assets is decentralized access, where a user can deposit and withdraw on the native chain and would have tokens minted and burned on target chains. This process requires the target chains to know which address to mint for, which Chainlink will provide with their [Cross Chain Interoperability Protocol \(CCIP\)](#).

Overview - CelsiusX

 web.archive.org/web/20220810175426/https://docs.celsiusx.io/collateral-manager/overview

The collateral manager is a smart contract that interfaces between the Chainlink oracle and Enzyme vault. It reports the collateralization of assets on the native chain for the CelsiusX isomorphic proof of reserve.

The total token quantity in the reserve vaults is calculated with the following function within Collateral Manager, which takes in a reserve ID to the set of vaults that will be used in calculating the value and returns the sum.

function getReserveValue(bytes32 reserveld) public returns (uint256 value)

reserveld: ID to the set of vaults that will be used in calculating the total reserve value

RETURN: the accumulated value in all vaults within the queried reserve

In addition, the Collateral Manager includes functions that enable

The creation of a new reserve:

function createReserve(string memory name, string memory description)

name: the shortened string name identifying the reserve

description: text providing basic information on the reserve

The addition of vaults to an existing reserve:

function addReserveVault(bytes32 reserveld, Vault memory vault)

reserveld: ID to the set of vaults that will be used in calculating the total reserve value

vault: data contained to calculate value of collateral

Interfacing With Enzyme Vaults - CelsiusX

 web.archive.org/web/20220810175418/https://docs.celsiusx.io/collateral-manager/interfacing-with-enzyme-vaults

In order to interact with Enzyme Vaults, a Chainlink external adaptor is utilized. Specifically, when querying for the total quantity of tokens in the reserve vaults, Collateral Manager calls

```
uint256 answer = IVaultCalculator(v.calculator).calculate(v.vault);
```

This interface utilizes the following calculate function

```
function calculate(address vaultProxy) public override returns (uint256)
```

vaultProxy: the address of the Enzyme vault

The overall process for interacting between an Enzyme Vault, a Chainlink oracle, and the wrapped asset can be illustrated as

Smart Contract Addresses - CelsiusX

 web.archive.org/web/20220810175414/https://docs.celsiusx.io/security/smart-contract-addresses

A list of contracts used within the CelsiusX Ecosystem can be found in the following pages.

Ethereum Infrastructure

CollateralManager Proxy: [0x520DA65f3B9b93a5Bb6A1dB911De40Ae197aa639](#)

- **Current Implementation:** [0x9b436168DD080f1F95d1919258c64590263c0dAE](#)

Address Manager Proxy: [0xfe4546feFe124F30788c4Cc1BB9AA6907A7987F9](#)

- **Current Implementation:** [0x4859dF02d1c7cD85c2A283708958AaA7728baD67](#)

Enzyme Token Calculator: [0x424240A904222dBcf4191004B81614f671a82486](#)

CelsiusX Wrapped ETH (cxETH) - CelsiusX

 web.archive.org/web/20220810175436/https://docs.celsiusx.io/security/smart-contract-addresses/celsiusx-wrapped-eth-cxeth

CelsiusX Wrapped ETH (cxETH)

ERC20 Contract Addresses

cxETH - Polygon:

[0xfe4546fefe124f30788c4cc1bb9aa6907a7987f9](#)

Enzyme Vault Address (Native Chain Reserve)

[0xdbaa0bcec419c47a75efbb93c745aebae3fe9c7b](#)

Enzyme Vault Dashboard

<https://app.enzyme.finance/vault/0xdbaa0bcec419c47a75efbb93c745aebae3fe9c7b/overview>

Chainlink Proof of Reserve

Ethereum -> Polygon:

[0xB4D962106206D88372C542C8ffeCACaefb728A60](#)

CelsiusX Wrapped ADA (cxADA) - CelsiusX

 web.archive.org/web/20220810175436/https://docs.celsiusx.io/security/smart-contract-addresses/celsiusx-wrapped-ada-cxada

CelsiusX Wrapped ADA (cxADA)

ERC20 Contract Addresses

cxADA - Ethereum:

0x64875Aaa68d1d5521666C67d692Ee0B926b08b2F

cxADA - Polygon:

0x64875Aaa68d1d5521666C67d692Ee0B926b08b2F

Native Chain Reserve Wallet

addr1qyz2pxracz4ywtxgm38gshxu9hxuglvc22ujl8qfawch5xwlfq26s5sfrhh9zruk2jqejvmtexrqz5e7f7n9hvexywssptxgct

Enzyme Vault Address

0x664f7a26e4c266d97d6280dea5187653cc55170d

Enzyme Vault Dashboard:

<https://app.enzyme.finance/vault/0x664f7a26e4c266d97d6280dea5187653cc55170d/overview>

Chainlink Proof of Reserve

Cardano -> Ethereum

0xB95c17882EA3d06f7091D12ce32E7eEBC8D8a6a6

Ethereum -> Polygon

0x6A03b6F7A833A8305a532E7f4Fc161f470910058

CelsiusX Wrapped DOGE (cxDOGE) - CelsiusX

 web.archive.org/web/20220810175437/https://docs.celsiusx.io/security/smart-contract-addresses/celsiusx-wrapped-doge-cxdoge

CelsiusX

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Branded Assets



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CelsiusX Wrapped DOGE (cxDOGE)

ERC20 Contract Addresses

cxDOGE - Ethereum:

0xf9e293D5D793DDc1Ae4F778761e0b3E4aA7cF2dD

cxDOGE - Polygon:

0x9Bd9aD490dD3a52f096D229af4483b94D63BE618

Native Chain Reserve Wallets

TBD

Enzyme Vault Address

TBD

Chainlink Proof of Reserve

TBD



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Audits - CelsiusX

 web.archive.org/web/20220810175426/https://docs.celsiusx.io/security/audits

The CelsiusX wrapping infrastructure has been audited by [Halborn](#) to ensure intended smart contract functionality and identify any potential security issues. A combination of manual and automated security testing was performed in order to:

- Graph out contract logic
- Assess safety of critical solidity variables and functions in scope
- Determine any vulnerabilities, security hotspots, or bugs

The results of the audit are available at <https://celsiusx.io/>

Bug Bounty - CelsiusX

 web.archive.org/web/20220810175424/https://docs.celsiusx.io/security/bug-bounty

Smart contracts are vulnerable to a number of common errors including:

- Oracle failure/manipulation
- Congestion and scalability
- Cryptography problems
 - Signature malleability
 - Susceptibility to replay attacks
 - Weak randomness/encryption
- Logic and Solidity-specific errors

The bug bounty can be found on [Immunefi](#).

Overview - CelsiusX

 web.archive.org/web/20220810175413/https://docs.celsiusx.io/stablecoin/overview

Overview

This product is still under development.

The current stablecoin landscape, with a market cap of over \$120 billion, is dichotomous, with one end of the spectrum filled with fully centralized stablecoins backed by cash or cash equivalents (USDC) and the other end filled with fully decentralized stablecoins that are either algorithmic (RAI, OHM) or backed by collateral as defined in a protocol (DAI, LUSD).

The CelsiusX *actively managed stablecoin* employs a novel approach that uses transparent, auditable vaults containing crypto assets that are overcollateralized to mint a CelsiusX stablecoin (cxUSD). The CelsiusX stablecoin (cxUSD) will provide a transparent, auditable, and efficient new stablecoin into the DeFi ecosystem to complement existing solutions like fiat backed stablecoins (USDC) and algorithmic, decentralized stablecoins (DAI, OHM). cxUSD will combine transparency, by way of a visible collateral manager, with dynamically collateralizing Celsius's large asset base to create a more accessible stablecoin to the DeFi ecosystem and for Celsius users.

Branded Assets - CelsiusX

 web.archive.org/web/20220810175420/https://docs.celsiusx.io/branded-assets/branded-assets

CelsiusX Logo

cxToken Icons

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